

REMARKS

The above amendment and these remarks are responsive to the Office Action of Examiner Sean M. Reilly dated 1/29/2007 and of Examiner Aaron N. Strange dated 9/21/2007.

Claims 1-106 are in the case, none as yet allowed.

Interview

Applicants' attorney expresses appreciation for courtesy extended by Examiner Reilly in a telephone interview on 13 Jun 2007. Applicant indicated that the new matter rejection would be traversed, and inquired as to whether a responsive amendment would require the cancellation of the amendment to the specification which gave rise to the objection. The Examiner indicated that the new matter rejection would be withdrawn, and cancellation of the amendment to the specification would not be required.

Response to Arguments

The Examiner states

"In response to Applicant's request for reconsideration filed on September 18, 2006 and November 17, 2006 the following factual arguments are noted.

- a. *Applicant's amendments to the claims overcome the outstanding 35 U.S.C. 101 rejection."*
- b. *The combination of Chen and Boe is improper and fails to disclose the claimed direct negotiation session communication between the client and server."* [Office Action, page 2.]

In considering a., the Examiner objects to the use of the word "tangible" in claims 105 and 106, and to an amendment made to the specification paragraph 24.

Applicants have removed the word "tangible" from claims 105 and 106, replacing it with "physical". The amendment to the specification paragraph 24 will be discussed hereafter.

In considering b., the Examiner states:

"...in the current 103 rejection Examiner proposes modifying the telnet negotiation of Chen to include the negotiations of Boe utilized between the TN3270 server and host mainframe 12." [Office Action, pages 3-4.]

The current 103 rejection will be discussed hereafter.

Specification

The Examiner objects to the previously entered amendment to the specification, which was filed 20 Apr 2006, finding that "...the amendment to paragraph [sic, page] 24

line 16 constitutes new matter because of the new scope of a computer program product or a program element, or a program storage or memory device is not supported by the original disclosure." This is the amendment presented and previously entered:

-- It will be appreciated that, although specific embodiments of the invention have been described herein for purposes of illustration, various modifications may be made without departing from the spirit and scope of the invention. In particular, it is within the scope of the invention to provide a computer program product or program element, or a program storage or memory device such as a ~~solid or fluid transmission medium,~~ magnetic or optical ~~wire,~~ tape or disc, or the like, for storing signals readable by a machine, for controlling the operation of a computer according to the method of the invention and/or to structure its components in accordance with the system of the invention.--.

Applicants traverse, and are advised that the objection is to be withdrawn.

An applicant is generally free to change an application after it has been filed if the proposed changes are supported, or described, by the original application. In a sense, anything inserted in a specification that was not here before is new to the specification but that does not necessarily mean it is prohibited as "new matter". Prohibited new matter is that which is not found in the specification... as first filed, and that involves a

departure from the original invention [*Robinson on Patents* 561 (1890)]. The rule against new matter is intended to prevent an applicant (under the guise of an amendment) from introducing into his application a wholly different invention, or changing the construction of a fully disclosed invention, or presenting a different or preferred form of the invention. [*In re Oda*, 443 F.2d 1200, 170 USPQ 268, 270-271 (C.C.P.A. 1971).]

In this case, the proposed changes are supported by the original application, and they do not consist of an insertion. That is, every aspect of the definition of the scope of "memory device..." existing in the definition after the amendment was included in that definition before the amendment. Nothing new is added. There is here no broadening of the definition for memory device. Further, as would be apparent to those of skill in the art, applicants had possession of the subject matter defined by the phrase "such as a magnetic or optical tape or disc, or the like, for storing signals..." as the application was originally filed.

The amendment to which the Examiner objects merely removes "solid or fluid transmission medium" from the scope of the definition of memory device, and adds nothing to it. The resulting scope of the definition is diminished, not broadened. There is in doing so no prejudice to the public. Nothing is removed from the public domain in narrowing the scope of equivalents to which the claims are entitled, and there certainly is a public interest in allowing it to be done. In making this amendment, applicants hope to facilitate prosecution to allowance while reserving the

right to file a continuation application to recover the material removed.

The Examiner required that applicant "cancel the new matter in the reply to this Office Action." [Office Action, page 2, emphasis added.] As noted above, applicants have been advised by the Examiner that this requirement is being withdrawn.

35 U.S.C. 101

Claims 71-106 have been rejected under 35 U.S.C. 101 as directed to non-statutory subject matter.

As suggested by the Examiner [Office Action, page 2], applicants have amended these claims by limiting the scope of a computer readable storage medium such that solid and fluid transmission mediums are excluded. This is done by the amendment to page 28 of the specification, removing such transmission mediums from the definition of storage device, and by reciting in the claims the use of a physical program storage device.

Therefore, applicants urge that the rejection under 35 U.S.C. 101 of claims 71-106 be withdrawn.

35 U.S.C. 112

Claims 1-106 have been rejected under 35 U.S.C. 112, first paragraph, for the use of the term "legacy host".

Applicants have amended the claims to refer to "host", which is referenced at several locations in the specification, particularly at page 17, line 6 to page 18, line 1.

The host operations being described as processing of the client based on IP address, device requested, auto-signon is not part of any Telnet protocol, but is based on information passed from the Telnet negotiations. In other words, the Telnet negotiations do not "auto-signon a client", for example, but instead an exit program on the host is called to perform this function. Page 17, lines 1-5 22 refers to an "exit program", which is run on the host.

Applicants request that the rejection under 35 U.S.C. 112 be withdrawn.

35 U.S.C. 103

Claims 1-106 have been rejected under 35 U.S.C. 103(a) over Boe et al. (U.S. Patent 6,122,276, hereinafter Boe), Chen et al. (U.S. Patent 6,182,220, hereinafter Chen), and Murphy et al. (RFC 287, "5250 Telnet Enhancements", July 2000, hereinafter Murphy).

Applicants have amended all independent claims 1, 18, 23, 32, 49, 58, 63, 71, 88, 105, and 106 in various ways to clarify the server/client connection negotiations and the server exit program/host application processing undertaken in practicing their invention, which include the following:

1. Client connects to server (such as a Telnet

server), and possibly starts protocol negotiations. (Not all clients start this, some wait for the server to start it.)

2. The server starts negotiations and invites the client to negotiate terminal type and to send any environment variables it has.
3. The client sends normal negotiations of terminal type, and also the new environment variable (IBMSENDCUSTOMCONFREC) with value being a blank delimited list.
4. The server calls an exit program to act on the value received in the IBMSENDCUSTOMCONFREC variable (that is, shells the variable out to a host program external to the server.) The host provides back to the server exit program a result that needs to be returned to the client.
5. The server concludes negotiations with the client and finally sends in the Confirmation Response as custom data any user exit result received from the host, where custom data may be one of the items from the blank delimited list, indicating that this item was selected and used.

The exit programs do not negotiate the connection, that is done by the server and client. Further, data may flow in both directions: blank delimited list from client to server, and exit program results from server to client.

In applicants' invention, "exit programs" are used to run special or custom action.

Applicants' specification Figure 3 element 72 and Table 7 show "IBMSEENDCUSTOMCONFREC" as a new "parameter" from the client to the server, which directs the server to send a response ("return codes") as described by Figure 2 back to the client.

Boe's use of "confirmation record" applies to a transport protocol (SNA) and is mandatory, while applicants use applies to Telnet, or the like, and is negotiable. Telnet is not a transport protocol. The comparable transport protocol for applicants would be "TCP/IP". Telnet is a communications layer that rides on top of the transport protocol.

What Boe describes are not Telnet negotiations but SNA negotiations, and applicants argue that one of ordinary skill in the art would not consider that mandatory SNA negotiations would teach negotiable TCP/IP negotiations. Boe relates to SNA communications between the host and the TN3270 server, and not between the host and the TN3270 client. Further, applicants invention relates to negotiations between a server, such as a Telnet server, and client. While applicant's invention relies on exit programs for accessing host applications, such exit programs are not involved in the negotiations setting up a persistent connection of client to server.

The Examiner asserts that it is obvious to combine Murphy and Chen, using device names (as indicated by Murphy)

in Chen for the graphical display. Murphy, page 6, relates to display devices, and the attributes mentioned are display device attributes rather than session attributes. Since not all attributes negotiated are pertinent to the display device, it would be improper to state the other "custom" attributes are tied to the device name. For example, a user profile and password have nothing to do with having logged on to a color display terminal with 27 rows and 132 columns. Certainly, the profile, password, terminal-type, binary mode, and end-of-record are all associated with this Telnet session, but only some of these negotiations are associated with the device name. Therefore, applicants respectfully submit, there is no proper basis for using "session name" and "device name" interchangeably.

Thus, applicants traverse the Examiner's linkage of Chen and Murphy inasmuch as the profile and password negotiations are, in truth, not related to "session name" or "device name", since they are temporary for authentication and must be exchanged securely. They are not stored or displayed in the "session" or "device", and should not be since that is not secure.

The Examiner refers to Chen as teaching "executing exit programs". Applicants find no such teaching in Chen. Chen is only showing how encrypted passwords are exchanged, and this does not require exit programs, and thus exit programs are not implicitly taught by Chen, nor are they explicitly taught. The programmable negotiations in Boe are TN3270 negotiations (similar in certain respects to Telnet negotiations), and these do not constitute "exit program processing". Col. 5, lines 25-28 is nothing more than

TN3270 negotiations, and these do not involve exit programs. An exit program, as will be apparent to those of skill in the art, needs to be a "hook" or "call" to an external program, meaning external to the Telnet server. Thus, exit programs are not bound by Telnet negotiations and can act solely on the information passed to it. The Examiner errs in equating exit programs to Telnet, or the like, negotiations.

With respect to claim 1, the Examiner states as follows:

"Chen disclosed a method for processing a client (telnet client, figure 1) session request received at a server in a system including a client and a server with both server and client executing exit programs for negotiating a confirmation record on a session connection..." [Office Action, paragraph 5.]

Applicants traverse this reading of Chen, and argue that Chen does not disclose "exit program" processing. To clarify this distinction, applicants have amended claim 1 to further define exit program processing, as follows:

"executing an exit program for calling and passing said user variable to a host application at said host external to said server, said host application processing said user variable and responsive thereto returning custom data to said server, said custom data selectively including a user variable received from said client that was selected and used; and

said server concluding negotiating said environment parameters with said client selectively including sending to said client a confirmation record ~~and custom record~~ including said custom data received from said exit program..."

The Examiner continues by discussing the following three distinctions in claim 1 with respect to Chen:

Chen disclosed substantial features of the claimed invention however, Chen failed to specifically recite: 1) said client including a graphical user interface selectively assigned a session name enabling client emulator communication at an application layer with said server, 2) responsive to receiving a user variable requesting a custom confirmation record received at said server from said client, said server sending to said client a confirmation record and custom record data for enabling said client to engage in subsequent programmable negotiations directly with said server, and 3) a legacy host in the system. [Office Action, Paragraph 5.]

With respect to point 1, the Examiner references Murphy. With respect to points 2 and 3, the Examiner references Boe.

With respect to point 1, applicants respond that the combination of Chen and Murphy does not teach exit program processing. The Chen and Murphy protocols are "architectural", in the sense that the customer may not customize the confirmation record (of Murphy) without

modifying application code. Applicants' invention allows the creation, or customization, of any type of confirmation record through the use of exit program functionality, this being the sense in which claim 1 refers to "custom record."

With respect to point 2, the Examiner states that Boe and Chen may be combined as follows:

"...incorporate the telnet negotiation scheme disclosed by Boe within Chen's system, in order to further expand the compatibility of Chen's system, by enabling telnet clients to communicate with telnet servers that utilize the old proprietary SNA server protocol or protocols derived from the old proprietary SNA server protocol..."

"In an analogous telnet system, Boe disclosed negotiating environment parameters for establishing a telnet session between a client (TN3270 server) and a server (Host Mainframe 12) (see inter alia, figure 4). Boe further disclosed responsive to receiving a user variable requesting a custom confirmation record received at said server from said client, said server sending to said client a confirmation record (line D, fig. 4); host sends a confirmation response to requesting client via the server to signify a connection and custom record data for enabling said client to engage in subsequent programmable negotiations directly with said server (line E, fig. 4, col. 5, lines 25-28., in response to the client request, host sends custom record data (local address x) to client, thus forming a custom confirmation

record). [Office Action, pages 8-9.]

As previously discussed, Boe's use of "confirmation record" applies to a transport protocol (SNA) and is mandatory, while applicants use applies to Telnet, or the like, and is negotiable. Telnet is not a transport protocol. The comparable transport protocol for applicants would be "TCP/IP". Telnet is a communications layer that rides on top of the transport protocol.

Referring to Boe's figures, applicants are dealing with the entire path (lines 16 and 20 but without relay or converter 18) from host mainframe 12 to client 14, whereas the Examiner is speaking of functionality (i.e., confirmation record processing) only available on the SNA path represented by line 20. In Boe, line 20 is SNA and line 16 is TCP/IP, requiring the presence of server 18 as converter, or gateway, between host 12 and client 14. Consequently, there is not negotiation of environment parameters between host 12 and client 14, but rather between host 12 and 18 - and this is not what applicants are claiming.

Thus, Boe does not teach the claim 1 limitations of:

"...said client and said server negotiating environment parameters for establishing a connection-oriented connection of said server with said client, said client and said server communicating over said connection using a same client/server communications protocol...said server executing an exit program for calling and passing said user variable to a host

application at said host external to said server, said host application processing said user variable and responsive thereto returning custom data to said server, said custom data selectively including a user variable received from said client that was selected and used..." [Claim 1, as amended.]

With respect to point 3, as previously discussed with respect to the 35 U.S.C. 112 rejection, applicants have amended the claim to remove reference to "legacy" host.

With respect to claim 18, the Examiner states:

Claim 18 is rejected for similar reasons as claim 1 addressed above. Boe further teaches client (18, fig. 1)/server (20, fig. 1) system; a user exit program running on said server (abstract); said client operating in conjunction with said user exit program for requesting said custom confirmation record (lines A and B, fig. 4). [Office Action, paragraph 6.]

Applicants respond by noting that Boe has an extra level of indirection due to the SNA path 20. Any exit program would be on the SNA path, and therefore can't be done on the TCP/IP side. Further, applicants argue, Boe never teaches an exit program running on a server. Lines A and B of Boe Figure 4 are not an exit program in the sense of claim 18, which refers to an exit program where there is

"a host application program module for receiving from said exit program a user variable provided to said server by a client request for a custom confirmation

record and responsive thereto for returning to said server custom data selectively including said user variable; said server further for sending to said client a confirmation record including said custom data." [Claim 18]

There is no teaching in Boe that such an exit program is defining the negotiation an lines A and B in the manner of claim 18.

With regard to claims 2, 33, 59, 64, 72, 89, the Examiner states

"Chen disclosed negotiating, inviting, and sending steps executing within the application layer of a TCP/IP protocol stack (Chen Figure 1, TCP/IP is the protocol used for communication)." [Office Action, paragraph 7.]

These claims all depend from base claims in which confirmation records are negotiated using exit program functionality, and therefore are distinguished from Chen as previously discussed with respect to claims 1, 18 and hereafter with respect to the other independent claims in the case.

With respect to claim 3, the Examiner states:

"...Boe teaches the step responsive to a user variable requesting a confirmation record, sending to said client a confirmation record without said custom record data (Fig. 4, line E)." [Office Action, paragraph 8.]

Applicants respond that Boe line E teaches in connection with line E a confirmation of delivery in SNA protocol. This is an architected or defined protocol response in the sense that there is no manipulation or customization of it by an user exit, as previously discussed with respect to claim 1, from which claim 3 depends.

With respect to claims 4-6, which depend from claim 1, the Examiner states:

Boe further teaches the confirmation record including a field defining a pass through data length, said pass through data including said confirmation record and said custom record data (RU, fig. 2, col. 4, lines 38-40, lines 64-66; col. 5, lines 7-10, lines 25-28; RU (Request/Response Unit) field includes subfields that indicate various data parameters of the request/response/packet); appending said custom record data to said confirmation record (line E, fig. 4; in addition to default response stated in claims 2-3 above, updated responses also includes custom record data x). [Office Action, paragraph 9.]

As with claim 1, applicants respond that the confirmation record of claims 4-6 are custom (that is, dynamic in the sense of defined by exit program processing). Boe's is not.

With regard to claims 7-8, which depend from claim 1, the Examiner states:

"...Boe further teaches the request being for a defined

custom confirmation record, said request including a list of one or more predefined information items (local address x), further comprising the step of sending to said client defined data in said custom record data (line E, fig. 4)." [Office Action, paragraph 10.]

Applicants traverse and respond that Boe does not teach a "custom" confirmation record. Rather, Boe's confirmation record is architecturally defined, and not defined by a customer exit as in applicants' claims 1, 7, and 8. Applicants' exit program can define a unique confirmation record to be used during protocol negotiations, and this is not taught by Boe, or Chen, or Murphy.

With respect to claims 9-12 and 17, the Examiner states:

"Boe teaches providing in said custom record data indicia identifying a device, terminal, associated device (line C, fig. 4., device model=m1) allocated by a host server; physical location (line C, fig. 4., local address=x) for receiving output; and custom information for interpretation by said client (col. 5, lines 25-29; host sends custom response record to client.)" [Office Action, paragraph 11.]

Applicants respond that Boe works with predefined variables, and in the sense of using such predefined variables may be considered "custom". However, Boe does not teach the processing of confirmation records nor exit program functionality as previously discussed with respect to claim 1, from which these claims depend. These claims 9-12 and 17

refers to the confirmation record providing back to the server a preferred location for printing. This requires a user defined exit to customize the connection, and this is not taught by Boe.

With respect to claims 13-16, in paragraph 12 of the Office Action, the Examiner states:

"As per claims 13-16, Boe teaches the client negotiating with the host to establish a connection (line B, fig. 4). Boe further teaches plurality of new clients trying to log on and negotiating with the host for service connection (lines M, N, fig. 4). However, Boe does not specifically disclose providing in custom record data indicia identifying system security level and password encryption requirements, another device for retrying a rejected request, a reason for a failed auto-signon request, and a reason for denial of session connection request upon system overload and redirection to an alternate time or host.

Nonetheless providing such information to clients logging into telnet system was widely known at the time of the invention, as evidenced by Murphy. In an analogous art, Murphy disclosed a standard for telnet clients and servers to communicate (Abstract).

Murphy's description in RFC 5250 discusses negotiating environment variables, but there is no teaching of exit program processing. Unlike Murfphy, applicants provide that through use of exit programs this can be dynamically redefined (that is, customized) by customers. Applicants

create customized confirmation records that are defined by user exit programs.

The Examiner continues:

"Murphy's protocol provides clients logging into a telnet system with detailed custom record data response codes for use in establishing and debugging connections (Murphy see inter alia pgs-20 and 21 Response codes)."

Murphy does teach response codes, but these are static, predefined response codes and not custom codes defined by an exit. Murphy teaches in Figure 1 direct encapsulation of SNA protocol, a proprietary architecture. These are predefined pass-through records for the 5250 SNA data stream, and are not dynamic, or custom, response codes. This is not communicating with a user exit, but with the operating system kernel. This is a predefined list in accordance with a private protocol. The pass through header in Figure 2 is a 12 byte header, all predefined as explained in the caption below Figure 2. This is pass through data, and has nothing to do with a protocol defined in an exit program.

The Examiner continues:

"The response information includes identifying system security level and password encryption requirements (Murphy see pgs 7 and 8), another device for retrying a rejected request, a reason for a failed auto-signon request, and a reason for denial of session connection

request upon system overload and redirection to an alternate time or host (see inter alia pgs 20 and 21 Response codes). "

Again, Murphy teaches a rigid or predefined protocol, not one which is custom and configured by exit programs.

With respect to claim 19, the Examiner states:

As per claim 19, Boe teaches client being a Telnet client (e.g. the TN3270 Server receives telnet session information from the Host mainframe Figure 4, lines D or E). [Office Action, paragraph 13.]

Applicants traverse. In Boe, the 3270 client 14 and server 18 communicate on line 16 using TCP, and the host 12 and server 18 communicate on line 20 using SNA. So lines D and E are not telnet, but rather SNA.

In paragraph 14 of the Office Action, claims 20 and 22 are rejected for similar reasons as claims 1-8 and 18 addressed above. In response, please refer to the discussion of claims 1-8 and 18.

In paragraph 15 of the Office Action, claims 21, 44-47, 83-86, 100-103 are rejected for similar reasons as claims 13-16 addressed above. In response, please refer to the above discussion of claims 13-16.

In paragraph 16 of the Office Action, claims 23, 32, 49, 58, 63, 71, 88, 105, and 106 are rejected for similar reasons as claim 1 addressed above. Boe further teaches

negotiating environment parameters for establishing a connection-oriented connection with said server (lines B, C, fig. 4; environment parameters include PSIO, Power on, LocAdd-x, etc.)

In response, applicants refer to the previous discussion of claim 1. Further, with respect to Boe, applicants agree that Boe teaches negotiating environment parameters, but this is only done within the limits of a predefined protocol. Applicants negotiate environment parameters as defined by user written exit programs. Unlike Boe, applicants can dynamically customize the protocol.

In paragraph 17 of the Office Action, claims 34, 60, 65, 73, 90 are rejected for similar reasons as claims 3 above. Applicants respond as previously discussed with respect to claim 3.

In paragraph 18 of the Office Action, claims 35-37, 61-62, 66-68, 74-76, 91-93 are rejected for similar reasons as claims 4-6 above. Applicants respond as previously discussed with respect to claims 4-6.

In paragraph 19 of the Office Action, claims 38-39, 69-70, 77-78, 94-95 are rejected for similar reasons as claims 7-8 above. Applicants respond as previously discussed with respect to claims 7-8.

In paragraph 20 of the Office Action, claims 40-43, 48, 79-82, 87, 96-99, and 104 are rejected for similar reasons as claims 9-12 and 17 above. Applicants respond as previously discussed with respect to claims 9-12 and 17.

Applicants urge that claims 1-106 be allowed.

SUMMARY AND CONCLUSION

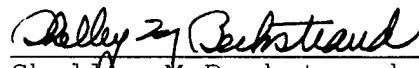
Applicants urge that the above amendments be entered and the case passed to issue with claims 1-106.

The Application is believed to be in condition for allowance and such action by the Examiner is urged. Should differences remain, however, which do not place one/more of the remaining claims in condition for allowance, the Examiner is requested to phone the undersigned at the number provided below for the purpose of providing constructive assistance and suggestions in order that allowable claims can be presented, thereby placing the Application in condition for allowance without further proceedings being necessary.

Sincerely,

R. G. Hartmann, et al.

By


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